BEFORE THE
ILLLINOIS COMMERCE COMMISSION

PREPARED DIRECT TESTIMONY
OF
DANIEL M. IVES

ON BEHALF OF
UNITED CITES GAS COMPANY

In The Matter of the Application of United Cities Gas Company for Authorization to Increase Certain Natural Gas Rates in the State of Illinois.

Docket No. _____

February 2000

BEFORE THE
ILLINOIS COMMERCE COMMISSION
DOCKET NO._____

DIRECT TESTIMONY
OF
DANIEL M. IVES

ON BEHALF OF
UNITED CITIES GAS COMPANY

Q. Please State Your Name, Occupation, And Business Address.

A. My name is Daniel M. Ives. I am a Consultant and Vice President with Lukens Consulting Group, Inc., under engagement by United Cities Gas Company ("United Cities" or "company"). My business address is 2100 West Loop South, Suite 1300, Houston, TX 77027, or dives@lukensinc.com. My business telephone number is (713) 961-1100.

I. Qualifications

Q. What Is Your Background And Experience In The Gas Industry?

A. I have been employed by Lukens Consulting Group, Inc. since January 1999. Prior to joining Lukens, I was employed by ANR Pipeline Company, Detroit, MI, as Vice President-Rates and Regulatory Affairs from 1995-1998; Algonquin Gas Transmission Company, Boston, MA, as General Manager-Rates and Billing from 1992-1995; and Washington Gas Light Company, Washington, DC, as Director of Maryland Rates and Regulatory Affairs from 1985-1992, and as Director of Federal Regulation from 1982-1985. From 1976-1982 I held various positions in non-utility operations, auditing and accounting at Washington Gas.

Q. What Are Your Educational And Professional Qualifications?

A. In 1970 I received a B. A. and in 1975 a B. S. from the University of Maryland. In 1979, I became a Certified Public Accountant in the State of Maryland. I am a member of the American Institute of Certified Public

Accountants, the American Gas Association (AGA) and I am Past Chair (1997) of the AGA's Rate and Strategic Planning Committee. I have filed testimony with the Public Service Commissions of Maryland, New York and Kentucky, and the Federal Energy Regulatory Commission. Summaries of my testimony are contained in my Curriculum Vitae, which is appended to this testimony.

II. Purpose of Testimony

Q. What Is The Purpose Of Your Testimony In This Proceeding?

A. My testimony describes and supports three components of United Cities' rate filing:

- I performed a Class Cost of Service Study to determine earned returns by class of customer and to provide guidance for interclass revenue allocation and rate design.
- I designed United Cities' proposed declining block billing structure and the rates necessary to recover its proposed revenue requirement.
- I testify in support of the company's weather normalization of sales and transport throughput.

III. Identification of Exhibits

Q. What Exhibits And Schedules Do You Sponsor In Support Of Your Testimony?

A. I sponsor the following exhibits and schedules:

- Exhibit DMI-1 Class Cost of Service Study
- Exhibit DMI-2 Investment To Margin Analysis
- Exhibit DMI-3 Weather Normalization Adjustments
- Schedule A-1 Comparison of Present and Proposed Rates - Jurisdictional Pro Forma
- Schedule E-3 Narrative Rationale for Tariff Changes
- Schedule E-4 Jurisdictional Operating Revenue

- Schedule E-5 Billing Units
- Schedule E-6 Typical Bill Comparison

I prepared this testimony. The exhibits and schedules were prepared by me or under my supervision and direction, unless otherwise noted in the testimony.

IV. Class Cost of Service Study

Q. Please Describe The Purpose Of A Class Cost Of Service Study (COS study).

A. A COS study is a mechanism used to assign and allocate a utility's total annual costs among its classes of service, such as United Cities' Residential; Small Commercial; Large Commercial (including Large Commercial, Cogeneration, Special Contract and Transport services); and Interruptible classes. The costs may be further apportioned within the classes, distinguishing between customer-related costs, capacity demand costs, commodity-driven costs and revenue costs, such as revenue-based taxes. The allocation of the annual cost of service is intended to indicate the revenues to be collected from each class of service, including an appropriate rate of return on investment. The indicated annual revenue deficiency for each class serves as a guide for setting the rates to be collected from each class through the monthly customer charge and the volumetric usage rates.

It should be noted that because of its substantial allocations, a COS study is an estimate of the costs to provide service to each class. Non-cost considerations may enter the ratemaking process as well, such as regulatory preference for cross-class subsidization, competitive rate design considerations, and amelioration of rate shock. Thus, the class cost of service study serves as a reference point for the rate design process.

Q. Please Describe The Process Of Preparing Your COS Study for United Cities.

A. My COS study (Exhibit DMI-1) utilizes as its starting point United Cities' overall cost of service for its Illinois operations for the test year, the twelve

months ended September 30, 1999. The test year cost of service includes annualization and normalization adjustments to expenses and rate base, as discussed by Witness Work, and weather normalization of sales revenues as discussed later in this testimony. The rate of return for the test year is set at the desired level for purposes of determining the overall revenue deficiency, as discussed by Witness Murry. The test year cost of service is functionalized, classified, and allocated to United Cities' Residential, Small Commercial, Large Commercial (including Large Commercial, Cogeneration, Special Contract and Transport services) and Interruptible customer classes in my COS study. Detailed studies were performed to analyze the costs of mains, services, and meters so that these facilities could be properly assigned or allocated to the customer classes.

Q. Why Did You Group Large Commercial, Cogeneration, Special Contract, and Transport Services Into One Class Of Service?

A. The Large Commercial, Cogeneration, Special Contract and Transport customers all tend to have similar operating characteristics: high volume usage, high load factor usage, less sensitivity to weather, and requirement of larger-sized mains, services and meters. Because of their high load factor usage, these customers produce higher rates of return on investment than do Residential or Small Commercial customers, as can be seen on Schedule 1, Page 2.

Q. What Are The Operating Characteristics Of The Two Interruptible Customers On The System?

A. Both Interruptible Customers had high volume usage and exhibited little sensitivity to weather. Because of their higher volume requirements, larger-sized, higher-cost facilities are also required to serve these customers, as can be seen in the Services Investment Study (Schedule 12) and the Meter Investment Study (Schedule 13) in the COS study. Both of these customers require Group C Services at an average cost of $899 each (as compared with Group A Services costing $312 each) and Group C Meters at an average cost

of $1,099 each (as compared with Group A meters costing $63 each). Yet, despite the higher facility costs required to serve these customers, and the possibility of service interruption (at either the customer's or company's behest), the customers together produced a 23.62% rate of return before increase (Schedule 1, Page 2).

Q. Please Describe The Functionalization Of Rate Base On United Cities' System.

A. Schedule 4, Page 8, as supported by Schedule 3, Page 5, and Schedule 14, Pages 23-24, of Exhibit DMI-1 assigns 91.34% of United Cities' rate base to the Distribution function, based on the Gross Plant in service ("GP" allocation factor). The balance of gross plant serves Production and Transmission functions (though the company does not have regulated rate schedules applicable to such functions) and the associated costs are ultimately recovered through the Distribution rates.

Q. Next, Please Describe The Classification Of Rate Base

A. Distribution rate base was classified as related to Customer, Demand, Commodity and Direct activities as shown on Schedule 4, Page 9, based on the Distribution Plant Analysis allocation factors developed on Schedule 10, Page 17 of Exhibit DMI-1. In that analysis, Land, Structures, Mains, and Measuring and Regulating Station Equipment were classified as Customer or Demand based on the allocation factors developed in the Minimum Distribution Mains Study contained on Schedule 11, Page 18. The Demand component was allocated based on Peak use of the system.

The Minimum Distribution Mains Study contained on Schedule 11, Page 18, re-prices all mains footage greater than 2" in diameter at the minimum system size of 2". The cost difference for the larger pipe is deemed to be demand-related. The resulting percentage of total cost, 22.99%, is used to allocate cost to Demand. The minimum distribution study is an appropriate method of allocating cost as it recognizes the dual nature of a gas system:

minimal customer needs are met by small diameter mains and services, while peak demands are served by larger diameter pipe and such costs are apportioned on the relative class demands.

Services, Meters, Regulators and related equipment were classified as Customer-related only ("C-ONLY" allocation factor). Industrial Measuring and Regulating Station Equipment was assigned directly to the Industrial customer class. Other Property on Customer Premises and Other Equipment were classified as Customer-related only.

Transmission rate base was classified as 100% Demand ("TRAN" allocation factor). Production rate base was classified as 100% Demand ("PROD" allocation factor). Storage rate base was classified 50% Demand and 50% Commodity ("STOR" allocation factor).

Q. Next, Please Discuss Allocation of Rate Base To The Customer Classes.

A. Schedule 4, Page 10, reflects the allocation of rate base to the customer classes.

Transmission plant was classified 100% as Demand and allocated to the classes based on Average and Peak use of the system ("A&P" allocation factor).

Distribution mains are classified 77.01% Customer-related and 22.99% Demand-related based on the Minimum Distribution System Study contained on Schedule 11, Page 18. The Customer component was allocated to the customer classes based on the average number of customers ("CUST" allocation factor). The Demand component was allocated based on Peak use of the system ("PEAK" allocation factor).

Distribution Services are allocated based on the number of customers weighted by their relative service investment ("CUST-S" factor), as developed in the Services Investment Study, Schedule 12, Pages 19-20.

Meters and Regulators are allocated based on the number of customers weighted by their relative meter investment ("CUST-M" factor), as developed in the Meter Investment Study, Schedule 13, Pages 21-22.

Other Distribution plant is allocated based on number of customers, for the Customer component; peak demand use, for the Demand component; and direct assignment for Industrial Measuring and Regulating Station Equipment.

Q. Please Describe The Calculation of Return and Income Taxes And Allocation To The Customer Classes.

A. Schedule 5, Page 11, presents the calculation of return and taxes applicable to the rate base investment for each customer class as developed on Schedule 4, Page 10. Return is calculated at the Overall Cost of Capital of 10.14%. The Equity portion of the return is calculated after deduction of the debt component of the return. The composite tax factor of 39.75% reflects a 7.3% State Income Tax and 35.00% Federal Income Tax.

Q. Next, Please Describe the Functionalization, Classification, and Allocation of Functional O & M Costs.

A. Schedule 3, Page 5, as supported by Schedule 15, Page 25, indicates that $2,356 of functional O & M expense was recorded in Transmission accounts. This expense was subsequently classified to the demand component of Distribution as shown on Schedule 6, Page 12. This expense was then allocated to the customer classes as shown on Schedule 6, Page 13, based on the Average and Peak allocation factor developed on Schedule 3, Page 7.

Similarly, Production and Storage functional O & M expenses of $159 and $591, respectively, were classified as demand and commodity costs on

Schedule 6, Page 12, and allocated to the customer classes on Schedule 6, Page 13. Production costs were allocated on the Average and Peak methodology. Storage demand costs were allocated to customer classes based on Peak use of the system and Storage commodity-related costs were allocated based on Volumetric use of the system.

The balance of functional O & M expense, $ 1,864,350, was functionalized as Distribution, as indicated on Schedule 3, Page 5, and supported by Schedule 15, Page 26. These O & M costs were classified as Customer, Demand or Direct costs based on the allocation factors on Schedule 6, Page 12, and allocated to the customer classes as shown on Schedule 6, Page 13. The majority of these costs, $1,358,987 of Customer costs, or 73% of total functional O & M costs, were allocated based on the average number of customers. Demand costs of $498,404, or 26.7% of total functional O & M costs, were allocated based on Average and Peak use of the system. Direct costs of $3,854 were assigned to the Large Commercial class as the costs related to Measuring and Regulating Station – Industrial (accounts 876 and 890).

Q. How Did You Allocate Administrative And General ("A&G") Expense, Customer Accounts And Service Expense, Sales Expense, Interest On Customer Deposits, Depreciation Expense, And Property And Other Taxes?

A. Schedule 7, Page 14, contains the allocations of these expenses to the customer classes. A&G was allocated based on each customer class' percent of Functional O & M expense, as developed on Schedule 6, Page 13. Customer Accounts and Service Expense and Sales Expense were allocated based on the average number of customers. Interest on customer deposits was allocated based on annual volumetric throughput. Depreciation expense and Property and Other Taxes were allocated based on total rate base applicable to each class.

Q. What Were The Results Of Your COS Study?

A. Schedule 1, Page 2 of Exhibit DMI-1, shows that before the requested revenue increase, the United Cities Illinois division would earn an overall return of 2.69% for the Test Year Ended September 30, 1999. The Residential class produced a .23% return, the Small Commercial class a 9.48% return, the Large Commercial class a 30.64% return and the Interruptible class a 23.62% return on rate base.

After the requested revenue increase, and if granted as requested by rate component and by rate schedule, the overall return on rate base would be 10.14%, as reflected on Schedule 2, Page 3 of Exhibit DMI-1. The Residential class would produce a 7.85% return, the Small Commercial class a 17.18% return, the Large Commercial class a 32.86% return, and the Interruptible class a 35.87% return on rate base.

Q. Are The Proposed Class Returns Reasonable?

A. Yes. The proposed apportionment of the requested revenue increase produces returns by class that reflect a movement toward elimination of the subsidy of the Residential class by the other customer classes. Though still less than the requested system average return of 10.14%, the proposed Residential return of 7.85% represents a substantial elimination of this class' deficiency. This is achieved by increasing residential revenues 22.20% annually, including gas costs, or $13-16 per month during the heating load months of December-March, as shown on the residential bill comparison on Page 21 of Schedule E-6.

While the Large Commercial and the Interruptible returns on investment may appear on their face to be excessive at 32.86% and 35.87% after the proposed rate increase, they are reasonable in light of the smaller net investment required per dollar of margin generated. As reflected on Exhibit DMI-2, the rate base to margin ratios are: Residential: 2.44, Small

Commercial: 2.03, Large Commercial: 1.30, and Interruptible: 1.03. Thus, investments in plant to serve Interruptible and Large Commercial are more efficient in terms of the margin that they produce.

V. Rate Design

Q. Please Describe Your Proposed Rate Design.

A. I am proposing implementation of a declining block commodity rate structure along with a monthly customer charge for each of the following tariff rate sales and transportation services:

- Residential (Rate Schedule 110)
- Small Commercial (Rate Schedule 120)
- Large Commercial (Rate Schedule 130)
- Interruptible (Rate Schedule 150)
- Transportation (Rate Schedule 160)

For the Special Contract (Rate Schedule 190) and Cogeneration (Rate Schedule 192) services I propose continuation of the existing customer charge and single block commodity rates, as each schedule serves only one customer and the rates and rate design are unique to the those customers.

Q. Please Discuss The Objectives Of Your Proposed Rate Design.

A. First, my goal was to design rates that would likely recover the proposed total cost of service on a normal weather basis. This goal was achieved, as the proposed rates should generate additional revenues of $ 3,155,315 or about $ 1,940 less than the required base rate revenue increase of $3,157,255 reflected on Exhibit DMI-1, Schedule 2, Page 4, Line 1, Column 5. (This exhibit adjusts Witness Work's revenue requirement by eliminating gas revenues and gas costs and setting Base Revenues at a weather-normalized level before rate increase. This schedule also contains an adjustment that

eliminates $5,890 of revenues not reconciled to weather normalized volumes at present rates.)

Second, I sought to recover the proposed revenues from each customer class as indicated by the revenue deficiencies in the COS study. Comparison of the revenue deficiencies indicated in the COS study with the revenues expected to be collected under the proposed rate design indicates that I have achieved this goal, as shown in the table below:

	Indicated Revenue Deficiency	Proposed Revenue Increase
Residential	$2,642,114	$2,548,845
Small Commercial	$406,191	$508,814
Large Commercial (130,160, 190,192)	$70,692	$41,937
Interruptible	$38,196	$55,719
	$3,157,193	$3,155,315

Third, I sought to implement the proposed rate structure, i.e. rates that include a monthly customer charge combined with a block usage component, as this structure allows for revenue stability and predictability for the company and the customers are encouraged to efficiently utilize the company's facilities.

Finally, I designed usage block breaks and block pricing differentials for each rate schedule to reflect base load, heating load, and other consumption patterns for each customer class. The proposed design of the blocks will send better price signals to customers and substantially insulate the company from the adverse impacts of weather.

Q. Why Is Weather of Concern In The Design Of United Cities' Rates?

A. United Cities' Illinois rates are designed utilizing actual customer consumption during the test period adjusted to reflect normal weather usage, as reflected in Schedule E-5. During the twelve months ended September 30, 1999, United Cities' Illinois operations experienced 10-14% warmer than

normal weather. This extremely warm weather, coupled with the company's flat commodity rates, placed too much of the company's revenues at weather risk and was a major contributor to the company's under-earning its desired rate of return.

Q. Please Explain How The Company's Revenues Are At Weather Risk Under The Existing Rate Design.

A. Residential rates account for $ 5.89 million, or almost 75%, of the total non-gas margins of $ 7.85 million under present rates. Of the Residential revenues, $3.99 million, representing 67.7% of Residential revenues and 50.8% of all non-gas margins, are recovered by the flat-rate commodity charge on a normal weather basis, as reflected on Schedule A-1, Page 2. This places too much of a revenue-recovery burden on the commodity rate – a virtually unachievable goal when the weather is warmer than normal.

Under my proposed rate design, only 13.0% of total Residential revenues, representing 30.1% of Residential commodity volumes, are recovered in the proposed third and fourth blocks of my rate structure on a normal-weather basis. As discussed later in this testimony, the block breaks were designed to better follow customer usage patterns, such that the majority of revenues associated with base and heating load are collected in the first and second blocks. And, as can be noted on Schedule A-1, Page 2, the proposed commodity rates of $.1800 and $.1500 for the third block and tailblock are less than the existing flat commodity rate of $.1939. Thus, as load falls off due to warm weather, it will do so at lower per-unit rates.

Q. How Does Your Proposed Design Align The Block Usage Structure?

A. I have aligned the block break points to reflect usage patterns. Under my proposal, Residential base load is recovered in the first block (1-30 Ccf) and about one-half of Residential heating load is recovered in the second block (31-100 Ccf), while the 3rd and 4th blocks recover loads in the 101-300 Ccf and 300>Ccf per month usage ranges, such as might be seen with larger

single family homes with more gas appliances and equipment. These break points are consistent with the normal weather usage consumption patterns that are seen in the Monthly Residential Bill Comparison in Schedule E-6, Page 4.

For example, during the non-heating months of April-October, consumption ranges from 12.8 Ccf to 83.4 Ccf/month and averages 31.6 Ccf/month. Thus, a first block break point of 30 Ccf will ensure recovery of most base, non-heating, load in the first block. During the typical heating months of November-March, average consumption ranges from 74.5 to 210.8 Ccf per month and averages 135.6 Ccf per month. Thus, a second block of 31-100 Ccf will recover about 67% of an average customer's heating load (70 Ccf/105.6 Ccf), in addition to the base load of 30 Ccf. Finally, analysis of the consumption data indicated that a third consumption block of 101-300 Ccf per month and a tail-block of 300> Ccf per month would be appropriate. The third and fourth blocks reflect annual consumption of 5.4 million Ccf and .8 million Ccf, respectively.

Q. Will The Proposed Blocks And Rates Encourage Gas Consumption?

A. The proposed blocks recognize natural consumption patterns and the rates are designed to allow the company to recover its costs in a less weather-sensitive manner. The price decline in my proposed block rates will encourage consumers to more efficiently utilize the company's facilities. Gas consumption may be encouraged to the extent that the proposed rates are adopted and the gas commodity itself remains competitive with alternate fuels such as fuel oil, propane, and electricity.

Q. Did You Also Re-Design The Company's Other Tariff Rates?

A. Yes. I similarly analyzed the usage patterns for United Cities' Small Commercial (Rate Code120), Large Commercial (Rate Code 130), Transport (Rate Code 160), and Interruptible (Rate Code 150) rate schedules and designed block usage breaks to match consumption patterns. I also designed

the block pricing to better recover revenues and provide price incentives for customers to better utilize the system. A rate increase is proposed without a rate structure change for the one Cogeneration (Rate Code 192) customer. No rate increase or rate structure change is proposed for the one Special Contract customer (Rate Code 190).

For Small Commercial (120) customers, I designed the first block to recover consumption of up to 100 Ccf, which recovers most of the average load of 120.7 Ccf in the months of May-October, as shown on Schedule E-6, Page 5. I set the second block at 101-300 Ccf, which recovers about half of the average heating load of 415.5 Ccf in the winter months, in addition to the base load of 100 Ccf. I set the third block at 301-500 Ccf and the tailblock at greater than 500 Ccf per month. Similar to Residential rates, I designed the block rates with a differential between the first block and the tailblock of $.2100 per Ccf, which will better provide for the company's cost recovery and provide customers an incentive to use the system.

I designed the Large Commercial (130) and Transport (150) blocks and rates exactly the same, setting the first block at 1-5,000 Ccf, which will recover most of the average loads in June-September, as shown on Schedule E-6, Pages 6-7. The second block was set to recover 5,001-15,000 Ccf of annual usage, the third block was set to recover 15,001-20,000 Ccf usage and the tailblock was set for loads > 20,000 Ccf per month. I set the rate differential between the first block and the tailblock at $.0525 per Ccf.

Q. Please Summarize Your Rate Design.

A. My proposed rate design achieves my objectives: the overall revenue requirement should be collected under normal weather conditions; the proposed rates are cost-based in that they will produce revenues for each class approximating each class' revenue responsibility; the company's risk is reduced during warmer than normal weather due to my proposed

commodity block and pricing design; and customers will receive clearer price signals in that more efficient use of the system will result in lower per unit and average rates. Finally, it should be noted that declining block rates are not a new concept. Other Illinois utilities, including NIGAS, People's Gas Light and Coke, and CILCO employ declining block rates for both Residential and commercial services.

VI. Weather Normalization

Q. Please Describe And Explain The Process The Company Used In Its Weather Normalization Of Sales And Transportation Volumes.

A. The weather normalization adjustments contained in Exhibit DMI-3 were prepared by company personnel, generally as follows: Weather data was obtained from NOAA, utilizing the weather stations for Springfield, Illinois (for Vandalia, Virden, Salem and St. Elmo, Illinois); Evansville, Indiana (for Harrisburg, Illinois); and Paducah, Kentucky (for Metropolis, Illinois) to obtain average daily temperatures and determine degree day deficiencies per month. Regression analysis was performed on actual sales by town, by customer class (using an average of prior month and current month sales to approximate cycle billing) to determine the amount of weather dependent load per degree-day. The weather dependent load per degree-day was multiplied times the difference between actual and normal degree-days to determine the weather adjustment per customer. The weather adjustment per customer was multiplied times the number of customers to determine the weather adjustment for the customer class for the month. Manual adjustments were made for certain non heating-sensitive loads in the Large Commercial (130), Interruptible (150), and Transportation (160) classes. No weather adjustment was made for the one Cogeneration (192) customer or

for the one Special Contract (190) customer. Overall, the weather was 10-14% warmer than normal in the company's Illinois service area.

VII. Conclusion

Q. What Action Do You Request Of The Commission?

A. For good cause and reasons shown, I request the Commission approve United Cities' proposed overall rate increase and its proposed tariff pages, which reflect the rate design changes discussed in this testimony and the accompanying exhibits.

Q. Does This Conclude Your Direct Pre-filed Testimony?

A. Yes, it does.

AFFIDAVIT

STATE OF TEXAS)
) **ss**
COUNTY OF HARRIS)

Daniel M. Ives, being first duly sworn, deposes and says that he is Daniel M. Ives referred to in the document entitled "Prepared Direct Testimony of Daniel M. Ives" in Docket No. _____ before the Illinois Commerce Commission, and that the statements therein were prepared by him or under his direction and are true and correct to the best of his information, knowledge and belief.

Daniel M. Ives

Sworn to and subscribed
before me this 14th
day of February 2000.

JULIE A. PENNA
MY COMMISSION EXPIRES
FEBRUARY 8, 2003

Notary Public

My Commission Expires:

2-8-2003

DANIEL M. IVES

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PROFESSIONAL EXPERIENCE

Lukens Consulting Group, Inc., Houston, TX
Vice President, January 1999-present

Consultant with experience in business and regulatory strategy for natural gas pipelines and distributors, and energy marketing firms. Areas of expertise include tariff and rate design, competitive analysis, litigation support, and energy project evaluation. Provides expert testimony on rate, tariff and certificate matters.

ANR Pipeline Company, Detroit, MI
Vice President-Rates and Regulatory Affairs, 1995-1998

Directed ANR's rate and regulatory activities before the Federal Energy Regulatory Commission (FERC). Settled a major ANR rate case and an Empire State Pipeline (an ANR subsidiary) rate case, achieving company financial and regulatory objectives. Achieved regulatory approval for the profitable sale and spin-down of ANR's Southwest gathering assets. Successfully completed applications for several major pipeline projects, including the Independence Pipeline project, Carisbrook to Horsham (Australia) pipeline, and a major Wisconsin expansion. Designed and implemented new gas transportation, parking and lending, and storage services to meet competitive market needs.

Algonquin Gas Transmission Company, Boston, MA
General Manager-Rates and Billing, 1992-1995

Directed Algonquin's transmission and storage company rate activities before the FERC. Filed and settled a major rate case, implementing FERC Order No. 636 and resolving inter-customer rate design issues. Testified on rate design policy and the company's design of "backhaul" transportation rates. Achieved resolution of a court remand case by proposing and obtaining inter-customer payment of refund obligations through a global rate settlement. Developed rate studies for market analysis and regulatory filing of the company's Northeast and Maritimes Pipeline project.

Washington Gas Light Company, Washington, DC
Director-Maryland Rates and Regulatory Affairs, 1985-1992

Responsible for the company's revenue requirements, tariff administration, general regulatory matters and Commission relations in Maryland. Filed, litigated and/or settled four rate cases for company and subsidiary Frederick Gas Company, Inc. Testified and implemented natural gas transportation rates. Designed and implemented a forward-looking quarterly purchased gas adjustment mechanism. Testified on gas supply, rate design and cost of service matters.

Director-Federal Regulation, 1982-1985

Represented the company in pipeline supplier negotiations and rate cases before the FERC. Testified on pipeline cost allocation, rate design, gas supply, and transportation matters.

Secretary and Treasurer, Davenport Insulation subsidiary, 1979-1982

Supervised the subsidiary's accounting, finance, treasury, computer operations, and corporate record functions. Prepared monthly financial reports and audited Annual Report for Davenport and three subsidiary companies. Restored profitability through sale or closure of unprofitable plants and branches, tightening of cost controls, and implementation of computerized accounting and cash management systems.

Various Accounting & Auditing positions, 1976-1979

Worked as a staff accountant and internal auditor. Prepared tax and insurance reports, journal entries, and special reports. Audited construction projects and bids. Participated on development task force for major accounting database system.

Firestone Tire and Rubber Company, Akron, OH
Field Auditor, 1975-1976

Performed audits of retail tire stores and distribution facilities.

Leaseway Transportation Corporation, Baltimore, MD
Various positions, 1968-1975

Worked as Branch Manager in truck rental and leasing and contract carriage trucking operations, supervising up to 80 drivers and helpers.

EDUCATION and CERTIFICATION

University of Maryland, College Park, MD
B. S., Accounting, 1975
B. A., Sociology, 1970

Certified Public Accountant, Maryland, 1979-present

TESTIMONY

Algonquin Gas Transmission Company

United States of America before the Federal Energy Regulatory Commission, Algonquin Gas Transmission Company, Docket No. RP 93-14-000. Prepared Direct Testimony on behalf of Algonquin filed on November 6, 1992. Policy testimony on rate design and the proposed rate increase and introduction of Algonquin's other witnesses. Supplemental Direct Testimony filed on behalf of Algonquin reviewing Commission policy on the showings necessary in order to roll-in incremental rates. Rebuttal Testimony filed in response to various depreciation, cost classification, cost allocation, rate design and tariff matters, including the design of backhaul rates-a limited issue which was set for hearing. Additional Rebuttal Testimony filed on rolled-in rate issues.

Empire State Pipeline Company

State of New York before the Public Service Commission, Empire State Pipeline Case 95-G-1002. Prepared direct testimony on behalf of Empire State Pipeline Company supporting the general policy issues of the rate filing and introducing company witnesses, adopted July 16, 1996 at evidentiary hearing. Case settled and Commission approval order issued effective September 24, 1996.

Frederick Gas Company, Inc.

Before the Public Service Commission of Maryland, Case No. 8213. Prepared Direct Testimony filed on October 6, 1989 on behalf of Frederick Gas Company, Inc. in its general rate case. The testimony describes a stipulation and Agreement reached by the parties to the proceeding and provides supporting information for the settlement rates.

Before the Public Service Commission of Maryland, Case No. 8510. Prepared Direct Testimony filed December 3, 1985 on behalf of Frederick Gas Company, Inc. The testimony describes cost savings to firm customers as a result of Frederick's spot market gas purchases and the continued benefit of Frederick's special contract interruptible sales program.

Washington Gas Light Company

United States of America before the Federal Energy Regulatory Commission, Transcontinental Gas Pipe Line Corporation, Docket No. RP83-137-000. Prepared Direct Testimony on behalf of Washington Gas Light Company filed on December 13, 1984. The testimony supported fully allocated cost-based rates for firm transportation service within a customer's contract entitlement and discounted interruptible transportation rates for service in excess of a customer's firm contract level. Rebuttal Testimony filed January 24, 1985.

United States of America before the Federal Energy Regulatory Commission, Transcontinental Gas Pipe Line Corporation, Docket No. RP82-55-000. Prepared Direct Testimony on behalf of Washington Gas Light Company filed on December 9, 1983. The testimony addressed Transco's proposed minimum commodity bill, its proposed Fixed-Variable rate design, and its proposed redesign of small customer rates.

Before the Public Service Commission of Maryland, Case No. 7962. Oral presentation made before the Commission at public hearings on gas transportation September 25-26, 1986. Prepared Direct Testimony on behalf of Maryland Natural Gas, a division of Washington Gas Light Company (WGL), and on behalf of Frederick Gas Company, Inc., a WGL subsidiary, filed on April 22, 1987. The testimony describes and supports proposed tariff provisions for firm and for interruptible delivery service by the companies and a proposed special purchases/sales rider for Frederick's low-priority interruptible gas sales. Rebuttal testimony subsequently filed as the case progressed.

Before the Public Service Commission of Maryland, Case No. 8060. Prepared Direct Testimony on behalf of Maryland Natural Gas, a division of Washington Gas Light Company, filed on March 1, 1988. The testimony describes and supports proposed tariff provisions and rates for interruptible delivery service and a margin-sharing tariff provision.

Before the Public Service Commission of Maryland, Case No. 8119. Prepared Direct Testimony on behalf of Maryland Natural Gas, a division of Washington Gas Light Company, filed on March 7, 1988. The testimony describes and supports a proposed declining block rate design with a monthly customer charge in the company's general rate case. The testimony also describes and supports proposed tariff changes to change or initiate turn-off and reconnection charges, service initiation fees, and rates and charges for unmetered gaslights. Rebuttal testimony was subsequently filed in the proceeding.

Before the Public Service Commission of Maryland, Case No. 8191. Prepared Direct Testimony on behalf of Maryland Natural Gas, a division of Washington Gas Light Company, filed on March 31, 1989. The testimony describes and supports a proposed declining block rate design with a monthly customer charge in the company's general rate case. The testimony also describes and supports

proposed rate revisions for delivery service and for unmetered gaslight service and a proposal to retain margins on new interruptible services pending recovery of investment. Supplemental Direct Testimony was filed on June 16, 1989 to reflect actualized data for the test year.

Before the Public Service Commission of Maryland, Case No. 7131, Phase XIII. Prepared Direct Testimony filed on behalf of Washington Gas Light Company and Frederick Gas Company, Inc. Hearing Date of December 6, 1983. The testimony describes the companies' participation in the special gas transportation programs of its pipeline suppliers during the period June 1983-November 1983 and the resultant cost savings to consumers.

Before the Public Service Commission of Maryland, Case No. 7131, Phase XIV. Prepared Direct Testimony filed on behalf of Washington Gas Light Company and Frederick Gas Company, Inc. Hearing Date of June 20, 1984. The testimony describes the companies' participation in the special gas transportation programs of its pipeline suppliers during the period December 1983-May 1984 and the resultant cost savings to consumers. The testimony also discusses the companies' activities before the FERC involving its pipeline suppliers.

Before the Public Service Commission of Maryland, Case No. 7131, Phase XV. Prepared Direct Testimony filed on behalf of Washington Gas Light Company and Frederick Gas Company, Inc. Hearing Date of December 11, 1984. The testimony describes the companies' participation in pipeline suppliers' special marketing programs and direct producer purchases during the period June 1984-November 1984. The testimony also discusses the companies' activities before the FERC involving its pipeline suppliers.

Before the Public Service Commission of Maryland, Case No. 8509. Prepared Direct Testimony filed on behalf of Maryland Natural Gas, a division of Washington Gas Light Company. Hearing Date of December 6, 1985. The testimony identifies all gas purchases included in the company's Purchased Gas Adjustment during the period June 1985-November 1985, the costs of which supplies were not determined by regulation. The testimony also identifies the benefits from special contract sales credited to firm customers through the Firm Credit Adjustment.

Before the Public Service Commission of Maryland, Case No. 8509(a). Prepared Direct Testimony filed on behalf of Maryland Natural Gas, a division of Washington Gas Light Company. Hearing date of June 11, 1986. The testimony identifies all gas purchases included in the company's Purchased Gas Adjustment during the period December 1985-May 1986, the costs of which were not determined by regulation. The testimony also identifies the benefits from special contract sales credited to firm customers through the Firm Credit Adjustment and the testimony identifies and describes the company's participation in cases before the FERC.

Before the Public Service Commission of Maryland, Case No. 8509(c). Prepared Direct Testimony filed on behalf of Maryland Natural Gas, a division of Washington Gas Light Company. Hearing Date of May 7, 1987. The testimony identifies all gas purchases included in the company's Purchased Gas Adjustment during the period December 1986-May 1987, the costs of which were not determined by regulation.

Before the Public Service Commission of Maryland, Case No. 8509(d). Prepared Direct Testimony filed December 3, 1987 on behalf of Maryland Natural Gas, a division of Washington Gas Light Company. The testimony identifies all gas purchases included in the company's Purchased Gas Adjustment during the period June 1987-November 1987, the costs of which were not determined by regulation.

Before the Public Service Commission of Maryland, Case No. 8509(j). Appeared as a supplemental direct witness at the hearing on November 30, 1990 to present oral testimony regarding the operation of the Firm Credit Adjustment mechanism and the computation of margins, particularly with respect to sales to Potomac Electric Power Company.

Western Kentucky Gas Company

Before the Public Service Commission of Kentucky, Case No. 99-070. Filed testimony on behalf of Western Kentucky Gas Company, an ATMOS Energy Corporation subsidiary, to describe and support a proposed Premises Charge to recover from new customers the incremental investment, and return and tax, associated with new residential customer hook-ups that is not otherwise recovered in base rates.

TRAINING AND TEACHING EXPERIENCE

American Gas Association's "Gas Rates Course", University of Wisconsin, Madison, WI

"Introduction to Regulation and the Ratemaking Process," a lecture, followed by a "Ratemaking Workshop," presented annually in June, 1991-1999.

"Pipeline Cost Allocation and Rate Design," a lecture and hands-on computer demonstration presented June 6, 1995.

American Gas Association/Edison Electric Institute's "Introduction to Public Utility Accounting Course," Virginia Commonwealth University, Richmond, VA

"Introduction to Regulation and the Ratemaking Process," a lecture, followed by a "Ratemaking Workshop," presented annually in May, 1991-1995.

American Gas Association's "Advanced Regulatory Seminar," University of Maryland, College Park, MD

"Current Rate Design Issues," a speech presented September 28, 1995.

PAPERS

"The Electric Heat Pump," an analysis of the electric heat pump's competitive impacts in the metropolitan Washington, DC heating markets and competitive strategies, June 28, 1985.

OTHER PROFESSIONAL ACTIVITIES

American Gas Association Rate and Strategic Planning Committee

Chairman	1997
Vice Chair	1995-1996
Member	1998, and prior to 1995

American Institute of Certified Public Accountants, Member

"Local Distribution Rate Design Trends and Opportunities," a speech presented in October 1990 and updated and presented in 1991.

"Current Pricing Issues," a speech presented October 6, 1989.

"Can America Unbundle and Still Keep Warm?" a speech presented October 7, 1988.

"Flexibility in the Changing Market," a speech presented October 5, 1984.

OTHER PRESENTATIONS AND SPEECHES

American Gas Association Rate Committee Meetings

"Market Hubs – Operation, Economics & Rate Implications," a speech presented August 29, 1994.

"Implications of Capacity Release," a speech presented March 7, 1994.

"Implementing Restructuring," a speech presented March 15, 1993.

"Integrated Resource Planning Theory and Practice," a speech presented in April 1992.

American Gas Association's Seminar "Competing in a Restructured World," Arlington, VA

"Separation of Functions and Accounting Cost Standards," a speech presented July 9, 1998.

NARUC Gas Subcommittee Teleconference on Gas Rate Issues

"Design of Pipeline Rates," a speech concerning the design of rates for short-term service given by teleconference, May 29, 1998.

Southern Gas Association's Accounting Seminar, Houston, TX

"An Update on Customer Choice Programs and Related Accounting and Regulatory Issues," a speech presented July 9, 1999.

"Natural Gas Pricing and Rate Design in the 1990s," Seminar in Houston, TX

"Rate Design Trends and Opportunities," a speech presented September 13, 1990.

"Pricing and Rate Strategies for Unbundled Services," Seminar in Houston, TX

"Local Distribution Rate and Regulatory Trends and Opportunities," a speech presented October 30, 1990.